

a second triggered contact of length L_x disposed in the first well; and

a third isolation region of length D_2 disposed between the second region and the second trigger contact, wherein D_2 from about 500 nm to about 3.5 μm , and wherein varying the length D_2 varies the trigger voltage and on-state holding voltage.

31. The electrostatic discharge (ESD) device according to claim 29, wherein the first isolation region, the second isolation region, and the third isolation region comprise silicon oxide or a blocking silicide layer.

32. The electrostatic discharge (ESD) device according to claim 24, where the device is used as a supply clamp or as an input/output protection in an integrated circuit operating in a range of voltages from about 2.5 V to about 18 V.

33. A method of making an electrostatic discharge (ESD) device, the method comprising:

providing a substrate doped to a first conductivity type;

forming a first well doped to the first conductivity type in the substrate, the first well comprising,

a first region doped to the first conductivity type,

a second region doped to a second conductivity type, and

a first isolation region disposed between the first region and the second region;

forming a second well doped to a second conductivity type in the substrate adjacent to the first well, the second well comprising,

a third region doped to the first conductivity type,

a fourth region doped to the second conductivity type, and

a second isolation region disposed between the third region and the fourth region; and

forming a first trigger contact comprising a highly doped region a junction between the first well and the second well.

34. The method of making an electrostatic discharge (ESD) device according to claim 33, wherein the junction comprises a gap that separates the first well from the second well by a distance t .

35. The method of making an electrostatic discharge (ESD) device according to claim 34, wherein the gap comprises a graded doping profile.

36. The method of making an electrostatic discharge (ESD) device according to claim 33, wherein the first trigger contact is formed in the junction between the first well and the second well and between a third isolation region and another isolation region.

37. The method of making an electrostatic discharge (ESD) device according to claim 33 further comprising:

forming a guard ring isolation surrounding the first well and the second well.

38. The method of making an electrostatic discharge (ESD) device according to claim 33, wherein the first region, second region, third region, and fourth region are formed by implantation.

39. The method of making an electrostatic discharge (ESD) device according to claim 33 further comprising:

forming a second trigger contact in the first well, wherein the second trigger contact is separated from the second region by a fourth isolation region.

40. The method of making an electrostatic discharge (ESD) device according to claim 39, wherein each of the first isolation region, second isolation region, third isolation region, another isolation region, and fourth isolation region are formed by implantation, local oxidation of silicon, or blocking silicide in a silicide processes.

41. The method of making an electrostatic discharge (ESD) device according to claim 33, wherein the first isolation region has a length from about 500 nm to about 3.5 μm , and wherein the second isolation region has a length from about 500 nm about 3.5 μm .

42. The method of making an electrostatic discharge (ESD) device according to claim 33, wherein the first trigger contact has a length from about 500 nm to about 11.2 μm .

43. The method of making an electrostatic discharge (ESD) device according to claim 39, wherein the fourth isolation region has a length from about 500 nm to about 1.5 μm .

44. The method of making an electrostatic discharge (ESD) device according to claim 33, where the device is used as a supply clamp or as an input/output protection in an integrated circuit operating in a range of voltages from about 2.5 V to about 18 V.

45. A method of making an electrostatic discharge (ESD) device, the method comprising:

providing a substrate doped to a first conductivity type, wherein the substrate comprises an epitaxial layer doped to a second conductivity type;

forming a first well doped to the first conductivity type in the substrate;

forming a cathode in the first well, the cathode comprising,

a first region doped to the first conductivity type,

a second region doped to the second conductivity type, and

a first isolation region disposed between the first region and the second region;

forming a second well doped to the second conductivity type in the substrate adjacent to the first well;

forming an anode in the second well, the anode comprising,

a third region doped to the first conductivity type,

a fourth region doped to the second conductivity type, and

a second isolation region disposed between the third region and the fourth region; and

forming a first trigger contact comprising a highly doped region disposed at a junction between the first well and the second well.

46. The method of making an electrostatic discharge (ESD) device according to claim 45, wherein the junction comprises a gap having a graded doping, wherein the gap separates the first well from the second well by a distance t .

47. The method of making an electrostatic discharge (ESD) device according to claim 45, wherein each of the